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UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL RESEARCH SERVICE  
Plant Pest Control Branch  
Washington 25, D. C.

June 4, 1954

Ethyl Ester of 4,4'-Dichlorobenzilic Acid  
(2 hydroxy-2,2-bis (4-chlorophenyl) ethyl acetate)

The following actions have been taken by this Section which may be of interest and importance to you. In accordance with our letter of June 10, 1949, this information is not to be made public as we do not want our actions to be interpreted as a recommendation for these products.

We are now accepting for registration a wettable powder formulation containing as the active ingredient 25.0% of the ethyl ester of 4,4'-dichlorobenzilic acid for the control of two-spotted mite, European red mite, brown clover mite and *T. medanieli* on apples and pears. This acceptance was based on data submitted by Geigy Agricultural Chemicals Division of Geigy Chemical Corporation, and after consultation with the Food and Drug Administration concerning spray residues at harvest. The product is distributed under the trade name "Chlorobenzilate 25W."

The following form of ingredient statement has been indicated as being acceptable:

ACTIVE INGREDIENT	
Ethyl Ester of 4,4'-Dichlorobenzilic acid	%
INERT INGREDIENTS	%
Total	100%

It would also be acceptable to state the name of the active ingredient as "Ethyl 4,4'-Dichlorobenzilate." The correct percentages by weight of the ingredients present should, of course, be inserted in the blank spaces. Through a misunderstanding at the time of the registration of the product, we accepted as the name of the active ingredient the following: 2 hydroxy-2,2-bis (4-chlorophenyl) ethyl acetate. The registration has been advised that the name given in the preceding ingredient statement should be substituted for it.

Directions for use along the following lines have been accepted: Apply at the rate of 1 to 1.5 lbs. of the formulation per 100 gallons of spray mixture in full coverage sprays when infestations appear. Repeat



applications after seven to 10 days, particularly if lower dosage is used. In concentrate applications apply 10 to 12 lbs. of the formulation per acre of apples or pears. Preventive treatments consisting of 0.5 lb. of the formulation in four or more cover sprays can be made. The directions should caution against application to Delicious apples in the western States since fruit injury may occur. They should also caution against application to pears within 15 days of harvest and to apples within 30 days of harvest. The following precautionary statement has been found to be acceptable for the present:

Caution: Avoid excessive inhalation of dust or spray mist.  
Do not get in eyes. Use adequate ventilation.  
Avoid prolonged or repeated contact with the skin.

This formulation has previously been accepted for use on peaches and roses subject to the following directions:

Peaches - Apply as a full coverage spray for control of two-spotted mite, European red mite and peach silver mite. Apply at the rate of 1 to 1.5 lb. of the formulation per 100 gallons of spray mixture. Do not apply within 30 days of harvest.

Roses - Control of two-spotted mite. Apply at the rate of one lb. of the formulation per 100 gallons of water. Apply as a full coverage spray application when mites are first noted, repeating as necessary. Do not apply at concentrations higher than one lb. per 100 gallons. May cause injury to roses in western States.

Directions for use along the following lines were previously accepted for the control of spruce mite on spruce, arbor vitae and hemlock; two-spotted mite on taxus and azalea, southern red mite on ilex, and for the control of European red mite, two-spotted mite and brown clover mite on nursery stock, such as apples, pears, peaches, walnuts and almonds. "Apply at the rate of 1 to 1.5 lbs. of the formulation per 100 gallons of water as a full coverage spray when mites first appear, repeating as necessary." The label should bear a caution against application to prunes or plums.

A liquid formulation distributed under the trade name "Chlorobenzilate 25E" and containing as the active ingredient 25% of the ethyl ester of 4,4'-dichlorobenzilic acid and 70% of Xylene has been accepted for the same uses on ornamental plants and nursery stock and under the same directions for use as were accepted for the wettable powder formulation except that the accepted dilution was 1 to 1.5 pints of the formulation per 100 gallons of water. In the case of roses, however, the use-dilution should not exceed 1 pint per 100 gallons of water. In addition to the precautionary statements we have given for the wettable powder formulation, the label for this particular formulation should also bear the statement "Flammable Mixture: Keep away from heat or open flame."

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The following form of ingredient statement has been indicated as being acceptable:

ACTIVE INGREDIENTS

Ethyl Ester of 4,4'-Dichlorobenzilic Acid \_\_\_\_\_%

Xylene \_\_\_\_\_%

INERT INGREDIENTS \_\_\_\_\_%

Total 100%

The correct percentages by weight should, of course, be placed in the blank spaces. It would also be acceptable to state the first-named active ingredient as "Ethyl 4,4'-Dichlorobenzilate."

*W. G. Reed*

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W. G. Reed, Head  
Pesticide Regulation Section







